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ABSTRACT

This paper outlines a methodology for assessing change in the parent-child relationship between infancy and toddlerhood. Specifically, the paper focuses on the utilization of the same or comparable tasks to observe and rate parent-child interactions at infancy and toddlerhood, and points out the scoring modifications that proved helpful in analyzing temperament and behavior data obtained in two empirical studies. The task and scoring modifications enabled the researchers to investigate parent and child behavior using temperament as the independent variable. Fifty Caucasian mothers and fathers with their first-born, 4- to 8-month-old infants comprised the sample of the first study. Forty-one of the fifty families were available for the second study when the children were 19- to 24-months-old. Measurements of temperament were made with the Carey Infant Temperament Questionnaire - Revised, 1978 (for 4 - 8-month-old infants) and the Toddler Temperament Scale (for 1 - 3-year-old children). Behavioral interactions were observed and rated between mother/child and father/child dyads at both developmental stages during a series of structured tasks suitable for demonstrating individual differences among children. It is concluded that much longitudinal information is to be gained by successfully assigning equivalent structured tasks for children at different developmental levels. (RH)

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PARENT-INFANT TO PARENT-TODDLER INTERACTION: TASK AND SCORING MODIFICATIONS

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Parent-Infant to Parent-Toddler Interaction:

Task and Scoring Modifications

ABSTRACT

Children develop rapidly between six months and two years of age. Therefore, the follow-up with very young children in a longitudinal study utilizing structured parent-child interaction tasks presents special difficulties. Some tasks must change as the child grows older, yet they must still call out similar behavior.

This paper outlines a methodology for assessing change in the parent-child relationship between infancy and toddlerhood. The two studies discussed used temperament--first infant, then toddler--as the independent variable. The usefulness of this approach to assess the effect of other independent variables will be discussed.

Parent-Infant to Parent-Toddler Interaction: Task and Scoring Modifications

Problem

Two studies were developed to investigate the relationship between child temperament and parent-child interactions. One was carried out with a group of infants (4-8 months), the second when these children were toddlers (19-25 months).

There are significant changes in children between the ages of six months and two years. At six months, for example, a child is limited in his/her responses to the environment to reaching out, crawling, facial expressions, and vocal sounds. By two years a child can walk and run, can drag and push a toy alone, has shown a dramatic change from vocal sounds to a growing vocabulary, and is more actively involved with his/her surroundings. Motor development provides the capability for independence, exploration, experimentation, and the mastery of bodily functions. With the acquisition of verbal skills the child moves from concrete towards abstract thinking and becomes increasingly communicative, responsive, and interactive. During this stage ambivalence about dependence/independence arises and the child wishes to do what he/she wants in his/her own way, yet have the freedom to periodically return to the sphere of parental protection (Flapan & Neubauer, 1975).

Structured observations of situations designed to elicit reactions which can increase the likelihood of the occurrence of key behaviors have been used in recent studies of children (Plomin & Foch, 1980; Plomin & Rowe, 1979; Rothbart, 1981). The longitudinal study of young children utilizing structured parent-child interaction tasks poses special problems. Tasks appropriate for rating the behavior of the infant may no longer be appropriate for rating the toddler. Behavior itself, and the behavioral expression of temperament, changes. Comparable measures of temperament have been developed for the infant and toddler stages (Carey & McDevitt, 1978; Fullard, McDevitt, & Carey, 1978), but comparable assessment of the parent-child relationship is more difficult. As the child develops some tasks must be changed while still yielding similar data, although the data may derive from different behavior. New and better methods may be developed for assessing the parent-child relationships as the child matures. Ideally these tasks and methods should lend themselves to incorporation into longitudinal studies that clarify information without changing experimental demands.

Fifty Caucasian mothers and fathers with their first-born, four to eight month old infants comprised the sample of the first study (Koller, 1980). Age, education, income, and years married of parents yielded a homogeneous group. Forty-one of the fifty families were available for the second study (Allert, 1982) when the children were nineteen to twenty-four months old. The measurements of temperament were made with the Carey Infant Temperament Questionnaire - Revised, 1978 (for 4-8 month old infants) and the Toddler Temperament Scale (for 1-3 year old children). Behavioral interactions were observed and rated between mother and child, father and child dyads at both developmental stages during a series of structured tasks suitable for demonstrating individual differences among children (activity level, adaptability, etc.) from the Marschak Interaction Method (MIM), a unique laboratory tool (Marschak, 1960). This paper concerns the utilization of the same or comparable tasks to observe and rate parent-child interactions at infancy and toddlerhood and the scoring modifications that proved helpful in analyzing the temperament and behavior data.

Task and Scoring Modifications

Marschak developed the MIM for studying parent-child interactions under controlled conditions because she found direct observations of such interactions important but previously ignored due to the impracticability of naturalistic observations. The controlled situation specific-task method yields a wider variety of activities in a shorter time period than is possible in a naturalistic study. Marschak developed tasks for five age groups ranging from neonate through adolescence. For the longitudinal observations in these studies the tasks used to elicit behavior of the toddlers needed to match the tasks used when the children were infants. Observations were conducted both times with the parent sitting on a mat in the observation room next to the child. Instructions for each task were printed on 3-by-5 inch cards placed next to the parent, with any materials necessary for completing a task contained in large, clearly marked envelopes placed nearby. The tasks used were chosen as typical interactions that may occur between parent and child.

The MIM tasks are divided into four dimensions (Attachment, Purposive Behavior, Alert to Environment, and Stress Reduction as follows:

Parent:
- Promotes Attachment
- Guides Purposive Behavior
- Alerts Child to Environment
- Aids in Reducing Stress

Child:
- Shows Attachment
- Shows Purposive Behavior
- Shows Alertness to the Environment
- Shows Ability to Cope with Stress

A set of six to ten tasks chosen should sample each of the four dimensions of interaction Marschak considered essential for the optimal development of the very young child. Care should be given to the proper ordering or sequencing of task presentation. The first task should be one that engages both parent and child while presenting no particular difficulties and encouraging relaxed enjoyment. Following this relatively nonthreatening task striving, frustrating or difficult tasks should be alternated with gratifying and entertaining tasks. The final task should be enjoyable and relaxing. The tasks decided upon as appropriate for the infant and toddler stages are listed in recommended order in Tables 1 and 2.

The following tasks were appropriate for both age levels: Parent leaves the room for one minute (Stress Reduction); Parent trims child's nails on one hand (Stress Reduction); Parent ignores child while silently reading a page of a magazine (Stress Reduction).

The remaining tasks at the infant level had to be matched with similar, but not identical, tasks chosen from the same dimensions and appropriate for the toddler level:

Infant	Toddler
Parent shows rubber doll to child trying to draw attention to it (Alert to Environment)	Parent gives child one squeaky animal and keeps other squeaky animal. Make the two animals play together (Alert to Environment)
Parent attempts to get child to stick out his/her tongue (Purposive Behavior)	Parent teaches child something he/she doesn't know (Purposive Behavior)
Parent attracts child's attention (Alert to Environment)	Parent shows child each page of book of textured materials, showing child the roughness, smoothness, and bumpiness of each material (Alert to Environment)
Parent plays with child in an attempt to get child excited--gooing, gurgling, etc. (Attachment)	Parent plays peek-a-boo with child (Attachment)
Parent rings bell where child cannot see it (Alert to Environment)	Parent drops spoon noisily on floor (Alert to Environment)

Parent helps child become relaxed and comfortable (Attachment)	Comb child's hair and ask him/her to comb yours (Attachment, Purposive Behavior)
Parent powders child (Attachment)	Parent applies lotion to child (Attachment)

The tasks were chosen to elicit similar behavioral expressions of temperament at both age levels, keeping in mind the developmental changes that would allow behavior to be different but still reflective of the same underlying temperamental characteristics.

In the first study (Koller, 1980) thirty-one parent and thirty-one infant behavior units were observed, rated, and compared to temperament dimensions (see Table 3). Canonical correlation analysis yielded significant relationships between all possible combinations of parent and infant behavior and infant temperament characteristics (see Table 4) so more specific analyses were performed. The behaviors were assigned to the four MIM dimensions based on descriptions of behaviors in the psychological literature that were conceptually consistent with these dimensions.

For the second study, dividing the parent and child behaviors into thirty-one or more microcosmic units was a less appropriate procedure considering the much greater array of behaviors available to the toddler. Therefore broader categories of behavior dimensions were used for observation and rating using a refined and simpler system that permitted a more direct rating and had yielded comparable findings for the same infant-parent sample (Feldman, 1981). The new behavior dimensions, devised by Feldman from literature review and analysis of the parent-infant videotapes, were appropriate categories for scoring the childrens' behaviors as toddlers. Table 5 presents the five parent behavior dimensions and the nine child behavior dimensions used to rate the parents and the children as infants and toddlers for longitudinal comparison.

Some modifications of the behavioral interaction tasks were necessary in these studies due to technical considerations arising from the format of the first study. The tasks as presented in this paper constitute the ideal method for longitudinally observing behavioral interactions between parent and child. Results of the studies indicated the task and scoring methods used were successful in comparing the relationships of parent-child temperament/behavior over time.

Table 6 presents an example of the Pearson Product-Moment Correlations obtained for five father behavior dimensions interacting with infant and five

father behavior dimensions with toddler. The following relationships were shown between father behavior with infant and with toddler: high Sensitivity with high Activity ($p < .01$), comfortable Subjective State ($p < .01$), and high Task Orientation ($p < .05$); high Activity with high Intensity ($p < .05$); comfortable Subjective State with comfortable Subjective State ($p < .01$) and high Sensitivity ($p < .05$); high Intensity with high Intensity ($p < .01$).

Table 7 presents another example of study results showing the Pearson Product-Moment Correlations obtained for nine infant temperament characteristics and nine infant behavior dimensions while interacting with mother. The following relationships were shown: high Activity Level with high Activity ($p < .05$) and high Object Arousal ($p < .05$); high Approach with high Activity ($p < .05$); high Adaptability with high Adaptability ($p < .01$), high Sociability ($p < .05$), high Social Arousal ($p < .05$), and high Acceptance ($p < .05$); high Intensity with high Activity ($p < .01$) and high Object Arousal ($p < .01$); high Distractibility with high Object Orientation ($p < .05$); high Threshold with comfortable Subjective State ($p < .05$) and high Adaptability ($p < .05$).

Conclusions

Much longitudinal information is to be gained by successfully assigning equivalent structured tasks for children at different developmental levels. While there is always a question about whether a structured task situation might wash out a child's ability to freely display his/her behavioral array, the laboratory method allows significantly greater control and yields pertinent information in a shorter time period than naturalistic observation.

In the study of infants and parents the microcosmic behavior units being subsequently assigned to only four broad behavioral dimensions resulted in the loss of some precision. An attempt to develop microcosmic behavior units from the greater behavioral array of toddlers would have been a difficult and pointless exercise when they would have then been assigned to the four broad dimensions again. Therefore the behavioral interactions were rerated for the infants then rated for the toddlers using the nine new behavior dimensions that had been developed. The additional specificity was helpful in analyzing the interactions and comparing them to the temperament scales ratings. The new behavioral dimensions for the parents (only five) remained too broad, however, and it would have been preferable to add enough dimensions to capture the social, adaptable, and object use behaviors of the parents as the nine behavior dimensions of the children did. Further studies should incorporate such additional dimensions.

Since there are MIM tasks at age levels from neonate through adolescence, the procedures described in this paper could be utilized for further longitudinal study of parent and child extending through the adolescent level. The task and scoring modifications addressed in this paper enabled the researchers to investigate parent and child behavior using temperament as the independent variable. The interaction of parent and child behavior and temperament, as well as the influence of the developmental issues of toddlerhood and the role expectations of parents for themselves and their children were made available for observation and analysis. While these studies used temperament as the independent variable, other independent variables can be studied in the same manner.

Table 1

Marschak interaction Method Tasks - Infant

1. Parent shows rubber doll to child trying to draw attention to it.
2. Parent attempts to get child to stick out his/her tongue.
3. Parent attracts child's attention.
4. Parent leaves room for one minute.
5. Parent helps child become relaxed and comfortable.
6. Parent rings bell where child cannot see it.
7. Parent trims child's nails on one hand.
8. Parent ignores child while silently reading a page of a magazine.
9. Parent plays with child in an attempt to get child excited (cooing, gurgling, etc.).
10. Parent powders child.

Table 2

Marschak Interaction Method Tasks - Toddler

1. Parent gives child one squeaky animal and keeps other squeaky animal. Make the two animals play together.

2. Parent teaches child something he/she doesn't know.

3. Parent shows child each page of book of textured materials, showing child the roughness, smoothness, and bumpiness of each material.

4. Parent leaves room for one minute.

5. Comb child's hair and ask him/her to comb yours.

6. Parent drops spoon noisily on floor.

7. Parent trims child's nails on one hand.

8. Parent ignores child while silently reading a page of a magazine.

9. Parent plays "peek-a-boo" with child.

10. Parent applies lotion to child.

Table 3

Behavior Observation Unit by MIM Interaction Dimension

Parent	Infant
Promotes Attachment	**Shows Attachment**
Touches B.	Reaches for P.
Holds B.	Touches P.
Affectionate Tactual	Looks P. (body)
Lifts B.	Looks P. (Face)
Holds B. up	Smiles P.
Looks B. (body)	Calls P.
Looks B. (face)	Imitates P.
Talks (includes baby talk)	
Calls B.	
Calls B's. Name	
Body Gestures	
Smiles to B.	
Smiles	
Imitates B.	
Alerts to Environment	**Alerts to Environment**
Adjusts B's. Position	Looks Obj.
Referential Speech	Looks Room
Sings	Smiles at Obj.
Points to Obj.	Excited Mvt. for Obj.
Shows Obj. to B.	Calls to Obj.
Moves Obj. to Attract	Touches Obj.
Gives Obj. to B.	Mouthes Obj.
	Plays w. Obj.
	Looks at Body Parts
Guides Purposive Behavior	**Shows Purposive Behavior**
Directive Speech	Reaches to Obj.
Takes Obj. from B.	Moves to Obj.
Physical Play	Takes Obj. from P.
Obj. Play	Drops Obj.
	Gives Obj. to P.
	Eats
Assists in Overcoming Tension	**Shows Ability to Reduce Tension**
Lifts B.	Cries to P.
Holds B. to Soothe	Ind. Physical Needs (cough, etc.)
Talks to Soothe	Ind. State (yawn, etc.)
Attends Needs	Frets (physical)
Feeds	Frets (verbal)

Table 3 (cont)

Assists in Overcoming Tension	Shows Ability to Reduce Tension
Rocks B.	Coos, Gurgles, etc.
Distracts w. Obj.	Excited Movements
	Body Parts in Mouth
	Touches Body Parts

Table 4

Infant and Toddler Temperament Dimensions

Temperament Characteristics	Low Score	High Score
Activity Level	low activity	high activity
Rhythmicity	rhythmic	arrhythmic
Approach	approach	withdrawal
Adaptability	adaptable	non-adaptable
Intensity	mild intensity	high intensity
Mood	positive mood	negative mood
Persistence	persistent	non-persistent
Distractibility	non-distractible	distractible
Threshold	high sensory thres.	low sensory thres.

Table 5

Behavior Dimensions

Infant/Toddler	Parent
Activity	Activity
Subjective State	Subjective State
Intensity/Emotionality	Intensity/Emotionality
Sociability	Sensitivity
Social Arousal	Task Orientation
Object Orientation	
Object Arousal	
Acceptance/Distractibility	
Adaptability	

Table 6 Pearson Product-Moment Correlations for Five Father Behavior Dimensions with Infant (RBI-F) and Five Father Behavior Dimensions with Toddler (RBT-F): Father and Infant/Toddler Interacting

RBI-F	RBT-F				
	Sensitivity	Task Orientation	Activity	Subjective State	Intensity
Sensitivity	.307	.392*	.407**	.530**	.173
Task Orientation	.027	.082	-.063	.036	.246
Activity	.148	.020	.122	.204	.390*
Subjective State	.365*	.015	.248	.556**	.142
Intensity	.014	.289	.231	.293	.429**

N = 41; *p < .05; **p < .01

Table 7 Pearson Product-Moment Correlations for Nine Infant Temperament Characteristics (QRT-I and Nine Infant Behavior Dimensions (RBM-I): Infant and Mother Interacting

QRT-I	RBM-I								
	Activity	Subjective State	Intensity	Socia-bility	Object Orientation	Object Arousal	Social Arousal	Acceptance/ Distracti-bility	Adapta-bility
Activity Level	.311*	-.124	.128	-.132	.256	.327*	-.090	.249	-.204
Rhythmicity	-.015	.176	.082	.060	-.125	-.182	-.080	.043	.126
Approach	-.324*	-.145	-.171	-.014	-.039	-.012	-.196	-.045	-.111
Adaptability	.135	-.205	.268	-.343*	.046	.129	-.313*	-.358*	-.433**
Intensity	.545**	-.143	-.137	.228	.188	.415**	.189	.018	-.076
Mood	-.108	-.284	.059	.058	-.072	-.015	-.004	-.211	-.117
Persistence	-.061	.043	-.133	.030	-.016	.030	.094	.091	-.118
Distracti-bility	-.103	.006	.006	.066	-.321*	-.234	-.167	-.010	.019
Threshold	.093	-.330*	.019	-.217	.272	.203	-.117	-.209	-.396*

N = 41; *p < .05; **p < .01

References

Allert, A. Temperament and early parent-child interactions: changes from infancy to toddlerhood. Unpublished doctoral dissertation, Illinois Institute of Technology, 1982.

Carey, W. B., & McDevitt, S. C. Revision of the infant temperament questionnaire Pediatrics, 1978, 61, 735-739.

Feldman, C. The effect of temperament on parent-infant interaction. Unpublished master's thesis, Illinois Institute of Technology, 1981.

Flapan, D., & Neubauer, P. B. The assessment of early child development. New York: Jason Aronson, 1975.

Fullard, W., McDevitt, S. C., & Carey, W. B. The toddler temperament scale. Unpublished manuscript, Temple University, 1978.

Koller, T. J. The relationship of infant temperament to mother-infant and father-infant interaction. Unpublished doctoral dissertation, Illinois Institute of Technology, 1980.

Marschak, M. A method for evaluating child-parent interaction under controlled conditions. Journal for Genetic Pschology, 1960, 97, 3-22.

Plomin, R., & Foch, T. T. A twin study of objectively assessed personality in childhood. Journal of Personality and Social Psychology, 1980, 4, 680-688.

Plomin, K., & Rouse, D. C. Genetic and environmental etiology of social behavior in infancy. Developmental Psychology, 1979, 15, 62-72.

Rothbart, M. K. Measurement of temperament in infancy. Child Development, 1981, 52, 569-578.